

SYSTEM FOR ROTATION MEASUREMENT WITH LASER INTERFEROMETRY

Abstract

An apparatus for use in rotational measurement. A rotational assembly is provided that is rotationally movable about a rotational axis. At least two interferometers are provided that are each able to receive a respective light beam, separate it into both reference and measuring beams and direct their respective measuring beam to and receive it back from the rotational assembly. The said rotational assembly includes a plurality of cube corners mounted so that at least one is able to receive from and reflect back to one of the interferometers its measuring beam as the rotational assembly rotates. The interferometers combine their reference and measuring beams into respective detection beams, wherein at least one such detection beam includes an interference signal that is processable to determine any rotational measurement of the rotational assembly and any work piece target attached to it.